

What is claimed is:

1           1. A semiconductor film formation device, comprising:  
2           a reaction vessel that includes a gas flow path to allow  
3           source gas to pass through and a substrate mount site provided  
4           in the gas flow path to mount a substrate;  
5           a temperature control means that is disposed opposite to  
6           the substrate mount site and close to the reaction vessel to  
7           control the internal temperature of the reaction vessel; and  
8           a thermal conductivity adjusting member that is disposed  
9           between the reaction vessel and the temperature control means;  
10          wherein the thermal conductivity adjusting member has a  
11          first section with a thermal conductivity different from the  
12          other section along the gas flow path.

1           2. The semiconductor film formation device according to  
2           claim 1, wherein:  
3           the temperature control means is a cooling device.

1           3. The semiconductor film formation device according to  
2           claim 1, wherein:  
3           the first section has an interspace formed between the  
4           reaction vessel and the thermal conductivity adjusting member.

1           4. The semiconductor film formation device according to  
2           claim 3, wherein:  
3           the interspace has a variable height along the gas flow  
4           path.

1           5. The semiconductor film formation device according to  
2 claim 1, wherein:

3           the first section is of a material whose thermal  
4 conductivity is different from that of the other section.

1           6. A semiconductor film formation device, comprising:  
2           a reaction vessel that includes a gas flow path to allow  
3 source gas to pass through and a substrate mount site provided  
4 in the gas flow path to mount a substrate; and  
5           a temperature control means that is disposed opposite to  
6 the substrate mount site and close to the reaction vessel to  
7 control the internal temperature of the reaction vessel;  
8           wherein the reaction vessel has a section with a wall  
9 thickness smaller than the other section to form an interspace  
10 between the reaction vessel and the temperature control means.

1           7. The semiconductor film formation device according to  
2 claim 6, wherein:

3           the temperature control means is a cooling device.

1           8. The semiconductor film formation device according to  
2 claim 6, wherein:

3           the interspace has a variable height along the gas flow  
4 path.

1           9. A semiconductor film formation device, comprising:  
2           a reaction vessel that includes a gas flow path to allow  
3 source gas to pass through and a substrate mount site provided

4 in the gas flow path to mount a substrate;

5 a temperature control means that is disposed opposite to  
6 the substrate mount site and close to the reaction vessel to  
7 control the internal temperature of the reaction vessel;

8 a plate member that is disposed opposite to the substrate  
9 mount site in the gas flow path; and

10 a thermal conductivity adjusting member that is disposed  
11 between the temperature control means and the plate member;

12 wherein the thermal conductivity adjusting member has a  
13 first section with a thermal conductivity different from the  
14 other section along the gas flow path.

1 10. The semiconductor film formation device according to  
2 claim 9, wherein:

3 the temperature control means is a cooling device.

1 11. The semiconductor film formation device according to  
2 claim 9 wherein:

3 the first section has an interspace formed between the  
4 reaction vessel and the thermal conductivity adjusting member.

1 12. The semiconductor film formation device according to  
2 claim 11, wherein:

3 the interspace has a variable height along the gas flow  
4 path.

1 13. The semiconductor film formation device according to  
2 claim 11, wherein:

3 the first section is of a material whose thermal

4 conductivity is different from that of the other section.

1 14. A semiconductor film formation device, comprising:  
2 a reaction vessel that includes a gas flow path to allow  
3 source gas to pass through and a substrate mount site provided  
4 in the gas flow path to mount a substrate;  
5 a temperature control means that is disposed opposite to  
6 the substrate mount site and close to the reaction vessel to  
7 control the internal temperature of the reaction vessel; and  
8 a plate member that is disposed opposite to the substrate  
9 mount site in the gas flow path;  
10 wherein the reaction vessel has a section with a wall  
11 thickness smaller than the other section to form an interspace  
12 between the reaction vessel and the temperature control means.

1 15. The semiconductor film formation device according to  
2 claim 14, wherein:  
3 the temperature control means is a cooling device.

1 16. The semiconductor film formation device according to  
2 claim 14, wherein:  
3 the interspace has a variable height along the gas flow  
4 path.